

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A device for driving an endless belt, comprising:

belt driving means positioned at one end of the belt and comprising a first roller for moving said belt;

at least one rotary body arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;  
and

a second roller adjoining said first roller and contacting the belt at a side where said rotary body is positioned;

wherein said first roller and said second roller each have allowable eccentricity reduced to a range that does not effect a variation of a speed of the belt.

Claim 2 (Original): The device as claimed in claim 1, wherein said belt driving means further comprises a motor.

Claim 3 (Original): The device as claimed in claim 2, wherein dynamic balance is set up on a rotary portion of said motor and said first roller integrally.

Claim 4 (Original): The device as claimed in claim 3, wherein said first roller and a shaft of said first roller are molded integrally with each other.

Claim 5 (Canceled).

Claim 6 (Original): The device as claimed in claim 2, further comprising an eccentricity adjusting mechanism assigned to at least one of said first roller and said second roller.

Claim 7 (Original): The device as claimed in claim 6, wherein dynamic balance is set up on a rotary portion of said motor and said first roller integrally.

Claim 8 (Original): The device as claimed in claim 7, wherein said first roller and a shaft of said first roller are molded integrally with each other.

Claims 9-11 (Canceled).

Claim 12 (Currently Amended): ~~The device as claimed in claim 11, wherein~~ A device for driving an endless belt, comprising:

belt driving means positioned at one end of the belt and comprising a drive roller for moving said belt;

at least one rotary body arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;  
and

a stationary guide body adjoining said drive roller and continuously contacting the belt at a side where said rotary body is positioned;

wherein said drive roller has allowable eccentricity reduced to a range that does not effect a variation of speed of the belt, said belt driving means further comprises a motor, and dynamic balance is set up on a rotary portion of said motor and said drive roller integrally.

Claim 13 (Canceled).

Claim 14 (Currently Amended): ~~The device as claimed in claim 13, wherein~~ A device for driving an endless belt, comprising:

belt driving means positioned at one end of the belt and comprising a drive roller for moving said belt;

at least one rotary body arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;  
and

a stationary guide body adjoining said drive roller and continuously contacting the belt at a side where said rotary body is positioned;

wherein said drive roller has allowable eccentricity reduced to a range that does not effect a variation of speed of the belt, said belt driving means further comprises a motor, said drive roller and a shaft of said drive roller are molded integrally with each other, and dynamic balance is set up on a rotary portion of said motor and said drive roller integrally.

Claims 15-16 (Canceled).

Claim 17 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor.

Claim 18 (Original): The apparatus as claimed in claim 17, wherein torque ripples generated by said outer rotor coreless motor are set at a spatial frequency close to a maximum value in an allowable, torque ripple spatial frequency range at a low frequency side, which does not effect image quality.

Claim 19 (Previously Presented): An apparatus comprising:  
belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein torque ripples generated by said outer rotor coreless motor are set at a spatial frequency close to a maximum value in an allowable, torque ripple spatial frequency range at a low frequency side, which does not effect image quality;

wherein said outer rotor coreless motor comprises an outer rotor functioning as said drive roller at a same time.

Claim 20 (Previously Presented): The apparatus as claimed in claim 19, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a

signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 21 (Previously Presented): The apparatus as claimed in claim 20, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 22 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein torque ripples generated by said outer rotor coreless motor are set at a spatial frequency close to a maximum value in an allowable, torque ripple spatial frequency range at a low frequency side, which does not effect image quality;

wherein said outer rotor coreless motor comprises an outer rotor that is formed integrally with said drive roller.

Claim 23 (Previously Presented): The apparatus as claimed in claim 22, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 24 (Previously Presented): The apparatus as claimed in claim 23, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 25 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein torque ripples generated by said outer rotor coreless motor are set at a spatial frequency close to a maximum value in an allowable, torque ripple spatial frequency range at a low frequency side, which does not effect image quality;

wherein said outer rotor coreless motor is driven such that timings for feeding currents to coils of different phases substantially do not overlap each other when a flux density of a bore magnetic field is substantially constant.

Claim 26 (Previously Presented): The apparatus as claimed in claim 25, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 27 (Previously Presented): The apparatus as claimed in claim 26, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 28 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein torque ripples generated by said outer rotor coreless motor are set at a spatial frequency close to a maximum value in an allowable, torque ripple spatial frequency range at a low frequency side, which does not effect image quality;

wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 29 (Previously Presented): The apparatus as claimed in claim 28, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 30 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein said outer rotor coreless motor comprises an outer rotor functioning as said drive roller at a same time.

Claim 31 (Previously Presented): The apparatus as claimed in claim 30, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 32 (Previously Presented): The apparatus as claimed in claim 31, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 33 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and



at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein said outer rotor coreless motor comprises an outer rotor that is formed integrally with said drive roller.

Claim 34 (Previously Presented): The apparatus as claimed in claim 33, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 35 (Canceled).

Claim 36 (Previously Presented): An apparatus comprising:

belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein said outer rotor coreless motor is driven such that timings for feeding currents to coils of different phases substantially do not overlap each other when a flux density of a magnetic field is substantially constant.

Claim 37 (Previously Presented): The apparatus as claimed in claim 36, wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 38 (Original): The apparatus as claimed in claim 37, wherein said outer rotor coreless motor comprises an outer rotor that is formed integrally with said drive roller.

Claim 39 (Previously Presented): An apparatus comprising:  
belt driving means positioned at one end of an endless belt, which is one of at least an intermediate image transfer belt and a sheet conveying belt, and comprising a drive roller for moving said belt; and

at least one photoconductive drum arranged side by side in a direction of movement of the belt and pressed against said belt either directly or indirectly to be thereby rotated by said belt;

wherein at least one of said drive roller and said photoconductive drum is directly driven by an outer rotor coreless motor;

wherein the outer rotor comprises an encoder disk on which is at least one of timing marks for sensing a signal for rotation control and a mark for sensing a signal that switches a phase of a current to be fed to each of different coil phases.

Claim 40 (Canceled).

Claim 41 (Previously Presented): An apparatus as claimed in Claim 34, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 42 (Previously Presented): The apparatus as claimed in Claim 37, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.

Claim 43 (Previously Presented): The apparatus as claimed in claim 39, wherein said mark functions as a mark for sensing a start signal output for each rotation at a same time.